# ENTOMOLOGICAL NEWS

AND

## PROCEEDINGS OF THE ENTOMOLOGICAL SECTION,

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

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## COLEOPTERA COLLECTING NOTES FOR 1895.


By FRED. C. BOWDITCH, Boston, Mass.


The early Spring gave one good day for collecting on the ice, the conditions most favorable being a south slope free from ice or snow, with a small pond or flowed meadow at the foot covered with ice, a bright warm sunny day and a gentle wind from the slope over the ice at the foot; the insects take wing and are borne onto the ice; or the little streams of water which trickle from the slopes carry minute species down to the ice edge, the collector's work is only walking over the ice, picking up the fallen, or searching the grass blades just at the edge of the little rivulets for minute forms which gather in clusters as they are brought down by the water. Almost any patch of melting ice in a meadow will reward the collector who searches the edges, but the south slope gives the best field. Fresh hard wood sap was also good last Spring and furnished very fine series of two species of Nitidulidæ, the best place being between the bark and the stump where the former had just begun to warp away from the latter.

My store of twigs and branches produced a fine lot of Cerambycidæ, chief among which were about fifteen *Xylotrechus* 4-

*maculatus* Hald., which emerged from beech branches gathered in August, 1894. The species operates in branches of an inch to an inch and one-half in diameter, making a clumsy cut very different from that of *Elaphidion*, but which weakens the branch, so that it falls after a severe wind, the curious part of it, being that several specimens may come from a single limb, while only one makes a breaking cut on the branch; whether any remain in the stump left on the tree I have not yet determined; the species in its mode of operations is midway between *Elaphidion*, which makes a clean cut and fails, and *Goes*, which makes no cut at all and remains.

Hickory twigs yielded a fine pair of *Purpuricenus humeralis* var. *axillaris* Hald. I am inclined to think it a common species, but comparatively seldom seen as it prefers the tops of trees. A pair of *Ichnea laticornis* Say also appeared for the first time in my hatching-box. I later took a third specimen on the branch of a freshly fallen red oak (Winter of 1894).

*Leptostylus macula* Say occurred plentifully on dead poison dog wood (*Rhus glabra*).

About a dozen or fifteen of a species, called for the present *Acanthocinus obsoletus* Oliv., occurred on freshly-cut white and Scotch pine logs, about the same number of specimens were taken in 1894 under similar circumstances; it seems very short lived, only appearing for a few days about June 15th. Two *Chrysobothris azurea* Lec. were taken from alder on June 8th; on the 23d I captured a third on recently-cut twigs of red oak; about a week later I saw a fourth in the same place, but failed to take it; I find it the liveliest of our Buprestidæ, and withal one of the rarest, and its beauty always makes the loss of a specimen cause for regret.

Dying black alder bushes yielded both sexes of *Dicerca pugionata* Germ. and *Acoptus suturalis* Lec.; two specimens of *Hormiscus saltater* Lec. were picked off a hickory twig, one in June, the other in August. The Summer drought made the early September water beetle collecting uncommonly good, specimens being concentrated in the few places not dried up, mere numbers were excessive; from the mass I got quite an amount of picked material. The Autumn collecting on fungi was excellent, and I took many small Silphidæ and Nitidulidæ, among them many good things which I have not had an oppor-

tunity to study. What pleased me most was the capture of a pair of *Mycetophagus tenuifasciatus* Horn in a small brown fungus growing on wild cherry; the specimens were taken August 24th and September 29th; since then I have found the same fungus on white oak.

The early part of the season was favorable for Chrysomlidæ, and yielded many good things, but the drought cut vegetation so that the latter part of the season was poor.

———o———

## TYPES IN THE NEUMOEGEN COLLECTION.—III.
### WITH A FEW NOTES THEREON.

By Dr. RODRIGUES OTTOLENGUI.

### THYATIRIDÆ.

*Euthyatira lorata* ♂ Grt. Washington Terr., Morrison.
*Bombycia semicircularis* ♂ Grt. Washington Terr., Morrison.

### NOCTUIDÆ.

*Acronycta quadrata* ♂ (♂) Grt. Nebraska.
*Acronycta edolata* ♂♀ (♂♀) Grt. Arizona, Doll.
*Rhynchagrostis bimarginalis* ♂ (♀) Grt. Hot Springs.
*Rhynchagrostis crenulata* ♂ (♀) Smith. California.
*Adelphagrotis stellaris* ♀ (♂) Grt. Arizona, Doll.
*Abagrotis erratica* ♂ (♀) Smith. California.
*Pachnobia monochromatea* ♂ Morr. Boston, Mass., Morrison.
*Pachnobia manifesta* ♂ Morr. Locality not given. Morrison.
*Pachnobia elevata* ♂ Smith. Colorado, Bruce.
*Pachnobia scropulana* ♀ Morr. Mt. Washington, Morr.

A note by Mr. Neumoegen says that this is a synonym of *Pachnobia wockei* Moeschl.

*Pachnobia claviformis* ♂ Morr. New Hampshire, Morrison.

A note says this is a synonym of *Pachnobia salicarum* Walk.

*Setagrotis planiformis* ♀ Smith. British Columbia.

A note says this is a synonym of *Noctua vocalis* Grt.

*Peridroma grandipennis* ♂ Grt. Hot Springs.
*Peridroma tenuescens* ♂ Smith. Nebraska, Morrison.
*Noctua clemens* ♂ Smith. California.
*Noctua invenusta* ♀ Grote.

This is a synonym of *Noctua vocalis* Grt., which was rechristened *Setagrotis planiformis* by Smith. Thus Grote named it twice, and Smith once, verily quite a baptism.

*Chorizagrotis terrealis* ♀ Grt. Hot Springs.
*Rhizagrotis proclivis* ♀ Smith. Arizona, Morrison.

Smith's check list credits this name to Morrison, but the type label is in Smith's writing, and bears his name. Mr. Doll considers *proclivis* to be a synonym of *acclivis*. The type of *proclivis* is a ♀, while *acclivis* is represented in the collection by ♂ ♂, which were taken at the same time by Mr. Morrison. Mr. Doll has recently received specimens from same locality, taken at the same time, and all of the males are of the form *acclivis*, while all of the females are *proclivis*. This seems significant.

*Rhizagrotis albicosta* ♂ (♀) Smith. Arizona, Morrison.
*Rhizagrotis apicalis* ♂ Grt. California.
*Feltia longidens* ♂ (♀) Smith. New Mexico.
*Feltia stigmosa* ♂ (♀). Cambridge, Mass., Morrison.

A note declares this to be a synonym of *Feltia volubilis* Grt.

*Porosagrotis satiens* ♂♀ Smith. N. W. British Columbia.
*Porosagrotis dollii* ♂♀. Arizona, Doll.
*Carneades neomexicana* ♂♀ Smith. New Mexico.
*Carneades niveilinea* ♂♀ Grt. Arizona, Doll.
*Carneades insertans* ♂ Smith. British Columbia.
*Carneades brevipennis* ♂ (♂♀♀) Smith. Nevada.

A type ♂ is also in the Doll collection.

*Carneades oblongostigma* ♀ Smith. Montana.
*Carneades flavidens* ♀ Smith. Arizona, Doll.
*Carneades perexcellens* ♀ Grt.
*Carneades infelix* ♂ Smith.

The types of *perexcellens* and *infelix* are both present. They are synonyms.

*Carneades cogitans* ♂♀ Smith. California.
*Carneades atristrigata* ♂ Smith. British Columbia.
*Carneades atomaris* ♂♀ Smith. California.
*Carneades moerens* ♂ (♀) Grt. Arizona, Doll.
*Carneades muscosa* ♀ Grt. Colorado.

This is a synonym of *cœnis* Grt.

*Carneades xyliniformis* ♀ Smith. New Mexico.
*Carneades conjuncta* ♂ (♂♀) Smith. New Mexico.
*Carneades teleboa* ♀ Smith. New Mexico.
*Carneades murdockii* ♂ (♀) Smith. British Columbia.
*Carneades fernaldi* ♀ Morr. Maine, Morrison.
*Carneades tristicula* ♂ Morr. Maine, Morrison.
*Carneades basiflava* ♂ (♂) Smith. British Columbia.
*Carneades spectana* ♀ Smith. California.
*Carneades furtivis* ♂♀ Smith. California.

*Agrotiphila rigida* ♀ Smith. Colorado, Bruce.
*Agrotiphila colorado* ♀ Smith. Colorado, Bruce.
*Eutolype depilis* ♀ Grt. Ohio.
*Barathra occidenta* ♂ (♀) Grt. Type from Hot Springs; ♀ from Adirondacks.

Smith's check list gives this *occidentata*, but *occidenta* is the reading on type label.

*Mamestra gnata* ♂ Grt. Arizona, Doll.
*Mamestra prodendiformis* ♂ (♀) Smith. Arizona, Morrison.
*Mamestra hadeniformis* ♂ Smith. Colorado, Bruce.
*Mamestra trifolii* var. *oregonica* ♂ (♀) Grt. California.
*Mamestra glaciata* ♂ Grt. Arizona.
*Mamestra bella* ♀ Grt. New Jersey.

A note says that this is a synonym of *Mamestra ectypa* Morr.

*Mamestra spiculosa* ♂ Grt. Arizona, Doll.
*Mamestra incurva* ♂ (♂) Smith. Arizona, Doll.
*Mamestra longiclava* ♂ Smith. Colorado, Bruce.
*Mamestra vittula* ♂ Grt. Hot Springs.

This name occurs twice in Smith's check list, once under *Mamestra* numbered 1894, and again at the end of that species, but below the asterisks, which I believe means that its proper place is doubtful. Here it is numbered 1954.

*Scotogramma submarina* ♂♂♀ Grt. Montana.

The type label calls this an *Anarta*.

*Ulolonche orbiculata* ♂ Smith. Colorado, Bruce.

This name also appears in Smith's list under *Mamestra*.

*Ulolonche dilecta* ♂ Hy. Edw. Arizona, Doll.

The type label reads *Perigea*, but Mr. Neumoegen places it here, though with a (?).

*Hadena perpensa* ♂ Grt. Arizona, Doll.
*Hadena transfrons* ♂ Neum. British Columbia.
*Hadena chryselectra* ♂ (♂♀) Grt. Arizona, Doll.

This is a synonym of *Perigea benigna* Hy. Edw.

*Hadena smaragdina* ♂ Neum. Arizona, Morrison.
*Hadena misera* ♀ Grt. Arizona, Morrison.

With only a part of one antenna remaining this poorly spread, lonely representative of a species, seems admirably named.

*Pseudanarta falcata* ♂ Neum. Arizona, Morrison.

This is probably a *Heliothis*.

*Oligea grisea* ♀ Grt. Arizona, Doll.

This was omitted from Smith's check list.

*Perigea loculosa* ♂ (♀) Grt. Arizona, Doll.
*Perigea periplexa* ♂ ♀ (♀) Grt. Arizona, Doll.

*Perigea pulverulenta* ♀ (♂♂♀) Smith. Arizona, Doll.
*Perigea dilecta* ♂ Hy. Edw. Arizona, Doll.
*Perigea benigna* ♂ Hy. Edw. Arizona, Morrison.

This is a synonym of *Hadena chryselectra.*

*Homohadena inconstans* ♂♀ Grt. Arizona, Doll.
*Homohadena epipaschia* ♂ Grt. Hot Springs.
*Homohadena vulnerea* ♂♂ Grt. Arizona, Doll.
*Oncocnemis umbrifascia* ♂ (♀) Smith. British Columbia.
*Oncocnemis levis* ♂ (♂♀♀) Grt. Colorado, Doll.
*Oncocnemis pernotalis* ♀ Grt. Arizona, Doll.

Smith's check list calls this *pernotata,* but the type is labeled *pernotalis.*

*Oncocnemis extremis* ♀ Smith. British Columbia.
*Oncocnemis major* ♂ (♀) Grt. Colorado.
*Oncocnemis curvicollis* ♂♀ Grt. Arizona, Doll.

Smith's check list declares that *major* and *curvicollis* are synonyms, but judging by superficial characters they seem to be quite distinct.

*Oncocnemis griseicollis* ♀ Grt. Arizona, Doll.
*Hadenella pergentilis* ♂ Grt. No locality label.
*Trichopolia dentatella* ♂ Grt. Arizona, Doll.
*Trichopolia ptilodonta* ♂ Grt. Arizona, Doll.
*Eupolia licentiosa* ♂ Smith. Utah.

This is a type of a new genus, Smith, as well as new species Smith, though I cannot find it in his catalogue, Bulletin 44. Possibly it has been described since that publication.

*Polia ædeon* ♂ Grt. California.
*Polia contadina* ♂ Smith. British Columbia.

———o———

## THE EFFECT OF MUSIC UPON SPIDERS.

Illustrative of the singularly pleasurable effect of music upon spiders, in the *Histoire de la Musique et de ses Effets,* we find the following relation:

"Monsieur de ——, captain of the Regiment of Navarre, was confined six months in prison for having spoken too freely of M. de Louvois, when he begged leave of the governor to grant him permission to send for his lute to soften his confinement. He was greatly astonished after four days to see, at the time of his playing, the mice come out of their holes, and the Spiders descend from their webs, who came and formed in a circle round him to hear him with attention. This at first so much surprised him, that he stood still without motion, when having ceased to

play, all those Spiders retired quietly into their lodgings; such an assembly made the officer fall into reflections upon what the ancients had told of Orpheus, Arion and Amphion. He assured me he remained six days without again playing, having with difficulty recovered from his astonishment, not to mention a natural aversion he had for this sort of insects, nevertheless he began afresh to give a concert to these animals, who seemed to come every day in greater numbers, as if they had invited others, so that in process of time he found a hundred of them about him. In order to rid himself of them he desired one of the jailors to give him a cat, which he sometimes shut up in a cage when he wished to have this company and let her loose when he had a mind to dismiss them, making it thus a kind of comedy that alleviated his imprisonment. I long doubted the truth of this story, but it was confirmed to me six months ago by M. P——, intendant of the duchy of V——, a man of merit and probity, who played upon several instruments to the utmost excellence. He told that being at ——, he went into his chamber to refresh himself after a walk, and took up a violin to amuse himself till supper time, setting a light upon the table before him; he had not played a quarter of an hour before he saw several Spiders descend from the ceiling, who came and ranged themselves round about the table to hear him play, at which he was greatly surprised, but this did not interrupt him, being willing to see the end of so singular an occurrence. They remained on the table very attentively till somebody came to tell him that supper was ready, when having ceased to play, he told me these insects remounted to their webs, to which he would suffer no injury to be done. It was a diversion with which he often entertained himself out of curiosity." (*Hist. de la Mus.* i, 321)

The Abbé Olivet has described an amusement of Pelisson during his confinement in the Bastile for refusing to betray to the government certain secrets intrusted to him by a friend who was a leading politician at the court of Louis XIV, which consisted in feeding a Spider which he discovered forming its web across the only air-hole of his cell. For some time he placed his flies at the edge of the window, while a stupid Basque, his sole companion, played on a bagpipe. Little by little the Spider used itself to distinguish the sound of the instrument, and issued from its hole to run and catch its prey. Thus calling it always by the same sound, and placing the flies at a still greater distance, he succeeded, after several months, to drill the Spider by regular exercise so that at length it never failed appearing at the first sound to seize on the fly provided for it, at the extremity of the cell, and even on the knees of the prisoner. To this account, in the "History of Insects," printed by John Murray, 1830, i,

269, is added: "The governor of the Bastile hearing that this unfortunate prisoner had found a solace in the society of a Spider, paid Pelisson a visit, desiring to see the manœuvres of the insect. The Basque struck up his notes, the Spider instantly came to be fed by his friend, but the moment it appeared on the floor of the cell, the governor placed his foot on its body and crushed it to death."

At a ladies' school at Kensington, England, an immense species of Spider is said to be uncomfortably common, and that when the young ladies sing their accustomed hymn or psalm before morning and evening prayers, these Spiders make their appearance on the floor, or suspend overhead from their webs in the ceiling, obviously attracted by the "concord of sweet sounds." —*Cowan's Curious Facts in the History of Insects.*

———o———

## MORE ABOUT THE RED BUG.

By Annie Trumbull Slosson.

On the eve of my departure for Florida I received the January News, and read Dr. Hamilton's interesting paper on the Red Bug. As soon as I saw the title I knew that I ought to close the magazine and forego the pleasure of perusal. But there was a horrible fascination in the theme and I read on to the bitter end. I have known little peace of mind since then. An absence of eight months from Florida had somewhat dulled the memory of certain agonizing experiences there, but this article has revived them all. I wish the good doctor had been correct as to my immunity from the little scarlet pests, but he is sadly mistaken; I have known them long and intimately. That I have not made mention of them in my occasional papers is owing to the dislike I feel to dwelling upon painful topics. But I can vouch for the truth of all the learned doctor says of this little fiend. Its diving, head first, into a sweat pore, its subsequent decease there, and the unhappiness ensuing, are described with painful accuracy. As for the remedies spoken of I have tried them all, and many more but with little benefit. Residents assure me that kerosene rubbed over the body just as soon as the tickling sensation shows the presence of the bugs will kill the little pests and prevent further trouble. I have not tried this, but I have seen excellent results from certain heroic treatment. One of my friends always resorts

to the knife. He cuts open the swelling or pustule, and takes out its contents, perhaps removing the bug itself, but of this I am not sure. It is a severe remedy, but certainly seems to shorten the period of discomfort. A darkey told me that rubbing a piece of salt pork on the "rising"—his name for the swelling—was a sure cure.

Two years ago I captured some of these tiny creatures on my arm and examined them closely; then I put them into alcohol with some spiders and ticks I had collected for Mr. Banks. I omitted telling him what they were and they appeared in the list he returned simply as *Trombidium* sp. (young). My own opinion is that there are several species included under the popular name of Red Bug and having the same unpleasant habits.

I am now en route to South Florida, but I sincerely hope that I may have no opportunities for investigating this matter. I gladly leave all discoveries in the life-history of this young Arachnid to others.

This subject is too serious to put into verse, as Dr. Hamilton suggests, or I might try my hand at something like this:

I sing of the Red Bug,
You know that this said bug
Doth e'en as a dead bug
Sting, tease and inflame;
A sweat pore doth enter
And dive to the centre,
There, flat on its venter
It dies, but dies game,
For it gives up the ghost
At expense of its host.
It's far beyond telling
Save by groaning or yelling—
The itching and swelling,
The burning and heat,
From your head to your feet,
Which this little Arachnid—
Nay, the subject 's too hackneyed,
I must stop it
And drop it.

---

ERRATA.

In Dr. Hamilton's article page 2, last NEWS, line 14 from bottom, for longer *read* wider; also line 2 from bottom for dissolving *read* disrobing.

## ZOOLOGICAL RECORD.

The amount of entomological work recorded in the present volume is apparently greater than that of any previous year, the titles numbering 1173 against 1069 last year. We have, however, to record but little extensive systematic work on any group of Insects. Handlirsch's monograph of the Hymenopterous genus *Bembex* being, perhaps, the most important work dealing with Insects of all the world. Brauer and Bergenstamm's tables of some Calyptrate Muscidæ have been completed. A large number of new species have been described in faunistic works; Godman and Salvin's great work on Central America continues to occupy a predominant position in this respect. Berthoumien has commenced a work on the Ichneumonidæ of Europe, a subject that has been treated hitherto in a very piece-meal style. Three volumes of Dalla Torre's Catalogue of Hymenoptera have appeared; as well as a second volume of the general Catalogue of Hemiptera. We are glad to find that M. Severin announces his intention of continuing this work, notwithstanding the lamented decease of his co-laborer, M. Lethierry. A great deal of work has been expended on Hamilton's Catalogue of the Coleoptera common to Europe Northern Asia and North America; it is accompanied by tables intended to elucidate the origin of these widely distributed forms, and will be of considerable assistance to those studying geographical distribution in the region it deals with. Leech's work on the butterflies of China and Japan has been completed.

The series of papers by Fox, Uhler, Ashmead, Pergande and Horn—that of the latter being a memoir of considerable extent—makes a very large addition to our knowledge of the Entomology of Lower California, a region that has been heretofore much neglected by entomologists, though of considerable importance. The series of faunistic papers resulting from the work of the W. India Committee has received a remarkable addition in the memoir of Riley, Ashmead and Howard, in which no less than 340 species of parasitic Hymenoptera are recorded from the island of St. Vincent. Large as it may appear, this is far from being the total number to be found there, as certain of the subfamilies still remain to be worked out. It is remarkable that only 6 new genera have been proposed, although 259 new species are

described in the paper. In Lepidoptera, on the other hand, the number of new generic names is very large, 170 having been proposed in one paper by Warren.

Hubbard's sketch of the Insects inhabiting the burrows of a tortoise, points out a new field of observation; Wachtl's paper on the larva of "the nun," suggests an important function discharged by some of the hairs; while Blanc has given an elaborate study of the head of a Lepidopterous larva, conveying much anatomical and physiological information. This paper was published in 1891, a periodical devoted to technical rather than to scientific matters, and has only recently come to the Recorder's notice. Hansen's paper on *Hemimerus* shows that enigmatical insect in quite a new aspect, and introduces us to what appears to be a mode of viviparous reproduction previously unknown in Insects. Binet's memoir on the structure of the ventral chain of nerve ganglia is accompanied by experimental observations. C. Janet has given excellent descriptions and figures of the stridulatory organs in one of our common ants. Gonin's lucubration on the metamorphosis of Lepidoptera, and the formation of their wings is interesting, and touches some very important and difficult points.

Considerable attention has been devoted to the anatomy and morphology of the terminal segments of the abdomen and their sexual modifications by Verhoeff, Escherich and Peytoureau. This last memoir includes a summary of the subject, with criticisms and suggestions.

Nassonow has been able to elucidate, to some extent, the very obscure question of the development of Strepsiptera; and Nagel's paper makes a valuable addition to the subject of the senses and sense-organs of Insects. Lowne's comprehensive work on the blow-fly, designed by the author as a résumé of the principles of anatomy, physiology and morphology as applied to Insects, has been completed.

Bateson's work on variation includes several entomological sections, and will be found valuable even by those who are not prepared to become disciples of "discontinuity," until that term shall have received a more definite application.

Plateau has contributed some sensible remarks on the subject of the "protection" of *Abraxas grossulariata*. Redtenbacher's paper on the different kinds of migratory locusts gives informa-

tion that will be of interest in many parts of the world; it is to be regretted that it should have appeared in an almost inaccessible publication. Wasmann's Catalogue of Myrmecophilous and Termitophilous Arthropods is a very useful work that has involved an enormous amount of labor.

Brongniart's work on early fossil Insects is certainly one of the most valuable of its kind that has ever appeared, if only in consequence of the number and excellence of the illustrations; one of these represents, of the natural size, an insect of over two feet in expanse of wing. The text of this work is in large part devoted to a review of the question as to the origin of wings, and the nomenclature of their nervures. This discussion, however, does not deal with the chief difficulty of the subject, viz., our insufficient knowledge of the histology and development of wings. Scudder's work on fossil Tipulidæ appears to be one of the best monographs that has yet been produced on a special family of fossil Insects.

Last year the Recorder called attention to the insufficient way in which new species and genera are frequently indicated to be such, and he takes this opportunity of alluding to a practice of the opposite kind that appears to be rapidly extending, viz., the publication of descriptions as "new species," or "gen. nov.," although diagnoses or descriptions have previously appeared in some other work. In these cases it is not infrequent that all reference to so important a fact is suppressed. The Recorder will venture to suggest that societies and editors should endeavor to render such a proceeding less feasible than it appears to be at present.—*D. Sharp's Introduction to Insecta, Zoological Record for 1894.*

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PICKAPACK.—On the 1st of July last I found a yellow geometrid caterpillar that had, what seemed to be, a bunch of bluish green follicles, just at the bend of the back. This proved to be a batch of larvæ, compressed, and having their nozzles buried in the skin of their victim. In a day or two the caterpillar succumbed, and the larvæ spread themselves over its under parts and drained its remaining juices; they then spun their cocoons. In the beginning of August the perfect flies appeared. Mr. Ashmead kindly identified them for me as specimens of *Euplectus frontalis* Howard. —Rev. THOMAS W. FYLES, South Quebec.

# ENTOMOLOGICAL NEWS.

Published monthly (except July and August), in charge of the joint publication committees of the Entomological Section of the Academy of Natural Sciences, of Philadelphia, and the American Entomological Society. It will contain not less than 300 pages per annum. It will maintain no free list whatever, but will leave no measure untried to make it a necessity to every student of insect life, so that its very moderate annual subscription may be considered well spent.

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PHILADELPHIA, PA., FEBRUARY, 1896.

## ECONOMIC ENTOMOLOGY.

WE find that many of our subscribers are interested in practical or economic entomology, and we are receiving letters like the following: "If Prof. Smith, in the Economic Department, would put in some articles pertaining to insects that do or are likely to injure the peach and plum especially, they would interest the fruit growers in this locality (Tifton, Ga.)."

Prof. Smith says he will gladly answer any questions that may be asked by farmers and fruit growers, and that they will be answered in his department of the NEWS. He also says he will publish from time to time, articles on insects injurious to peach and plum trees, and also on kindred subjects of interest to the agriculturist and horticulturist.

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OWING to illness, Mrs. A. T. Slosson has been ordered by her physician to give up entomological work for a time. Hard and persistent collecting in New Hampshire has had an injurious effect. Mrs. Slosson has done an enormous amount of work in supplying specialists with material and now needs a rest, and the attention of her correspondents is called to this fact. The work covered by Mrs. Slosson has been the entire field of Entomology, and some of us who only study a single order find we have plenty of work on hand, thus showing what her efforts have been.

# DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc.D., New Brunswick, N. J.

Papers for this department are solicited. They should be sent to the editor, Prof. John B. Smith, Sc.D., New Brunswick, N. J.

(See Editorial, page 45.)

**Grasshoppers in Minnesota.**—Dr. Otto Lugger has sent us a very interesting account of his operations against the migratory grasshoppers in his State, the essential points of which are as follows: Very early in July letters were received from Taylor Falls, Minn., in which it was stated that great damage was being done by grasshoppers, and that farmers in that region feared to lose their entire crops. After consulting with the proper authorities it was agreed that steps should be taken to assist the farmers against this insect, that all possible means should be employed to prevent the pest from extending over a larger area than already occupied. It was found that a space from 36 to 40 square miles was more or less badly infested with grasshoppers; in some places the ground was perfectly black with them, while in others near by but few could be detected. This showed that the young were still in the vicinity of the place in which they were born. The damage at that time was slight, as apparently only pasture land had yet suffered; but the young hoppers were moving towards Timothy and grain fields, so that no time was to be lost. It was concluded to utilize "hopper-dozers" and kerosene oil, as no other remedies could well be applied at that late period. Consequently 230 hopper-dozers were made and operated near Taylor's Falls, Rush City and Duluth, which required in all 95 barrels of kerosene oil. Besides this, smaller amounts were bought at the beginning of the work, in all about ten barrels, and in some cases the farmers also furnished some oil. The hopper-dozers were made as follows: A piece of ordinary sheet iron such as is used for stove pipes was turned up 1½ inches around the edge and riveted at the corners. This made a shallow pan about 8 feet long, 2 feet broad and 1½ inches deep. To the bottom of this were riveted six small strips which could be fastened to the three runners on which the pan rested. At the rear of the pan was screwed a light wooden frame as long as the pan and 1½ feet high over which canvass was stretched. This frame has the important office of throwing back into the oil all those grasshoppers that would otherwise jump clean over the pan. The runners were usually made from saplings, or small pieces of board curved upward in front to prevent them from catching in the ground. The front ends of the runners were fastened by screws to a cross piece which was drawn in turn by two ropes; one at each end. These ropes were joined in front and fastened to a single tie. Sometimes two hopper-dozers were fastened to a long pole by means of short ropes and this was very easily

drawn by one horse. Just in front of the pan was fastened a piece of rope which swept the ground a few inches in advance and served to stir up the hoppers to jump into the pan. In the pan was also a piece of cloth thoroughly saturated with water and about a pint of kerosene was then thrown in, the upright backing of canvass being also moistened with oil. The machine was then drawn slowly over the pastures where the hoppers were thickest, and in a short time it was partially filled with dead and dying insects. The slightest touch of kerosene either from the pan or the canvass sheet means death to the hopper, for the oil spreads over his body as a single drop does over a large surface of water. It seems to produce a paralysis, which is first shown by the stiffening of the legs. A very large proportion of the hoppers that come into contact with the oil in the pan immediately jump out again, but they invariably die in the course of a few seconds or minutes. The nature of the ground in the infested region did not in many places admit of using more than one hopper-dozer at a time. The farmers watched with great interest the operation of the first few hopper-dozers, coming from far and near for that purpose, and when they saw the possibilities of these simple machines they were not slow to realize that by faithful work they could largely protect their very promising crops. Generally speaking, the farmers showed a very commendable spirit to fight their enemy and they went to work with a will. Yet notwithstanding all this, the grasshoppers would have done a vast amount of damage if the climatic conditions had not been very favorable to the farmer. At the time when the grasshoppers are most voracious, and when they usually move about in large armies from field to field, a great number of light rains fell at short intervals, assisting the plants most wonderfully in their growth, while greatly damping the ardor of such warmth loving insects as the grasshoppers, which are not fond of moisture. These rains helped the plants and retarded the growth of the grasshoppers. Later, when these rains ceased to fall, the rye, oats and wheat were so close and rank that the ground was thoroughly shaded and retained the moisture for a long time. This condition of the grain fields was not at all to the liking of the grasshoppers; they wandered about the edges of such fields, but did not enter. Only in cases where the growth was poor, or the stand of grain irregular, did they enter or cause damage; chiefly to the oats. As a general rule, however, the grain escaped unhurt, and only pastures, meadows and some old Timothy fields suffered. This state of affairs assisted farmers greatly in fighting the enemy, as they did not have to use the machines in the grain itself, but only along the borders. Immense numbers of grasshoppers were killed before they caused much damage. How many were killed by a hopper-dozer is difficult to say, as 9 out of 10 that jump into it jump out again, only to die soon after in the field; but if only 5 or 6 bushels of the small grasshoppers are swept off the dozer during a day's labor, this would mean 50 to 60 bushels killed by a single machine. This is by no means an exaggerated estimate, but if only 10 per cent. of this

amount were killed it would well pay for the work. Kerosene has this additional advantage: it leaves a strong odor behind, which is very apt to spoil the appetite of the grasshoppers which escape destruction and which drives them away to less heavily scented pastures. As this oil kills plants as well, proper care in handling must be had, otherwise much injury can be caused by careless work.

Hopper-dozers, though very good machines upon level ground cannot be used in all places. Some farmers living upon newly cleared land managed their machines very ingeniously. Instead of moving the hopper-dozers, they drove the hoppers themselves into the pan which in this case was used in the same way as a coral is used to capture cattle or horses. Though much slower they still succeeded in killing the greater number of their enemies and saved their crops.

But after all, no matter how useful hopper-dozers may be against grasshoppers, they are only a make-shift to be employed when other remedies can no longer be employed. In many places they cannot be used at all—for instance the hill-sides of Duluth upon which immense numbers of grasshoppers have found a home. Here other remedies might be used to capture the grasshoppers in bags, and in which the insects are ground up by rollers. Poison could also be applied where cattle or chickens can be kept away. The true remedy consists in plowing, as has been shown before, and wherever grasshoppers are numerous this method must be resorted to. Of course it would be best to plow the soil containing eggs during the Autumn, as by so doing the surface of the plowed ground becomes thoroughly compacted by rain and snow. Plowing in Spring, if well done and as early as possible, will also be successful, though in most cases a few grasshoppers may succeed in reaching the surface.

In regard to the "Rocky Mountain Locust," it is possible that a small swarm of this destructive species has again settled in our State. At least it was stated in some newspapers published in the Red River Valley that a swarm had been observed, some time during the middle of August, flying in a southeasterly direction over Polk County. Inquiry failed to decide positively whether they had settled in our State or not. If they have they will be found south of Crookston, and farmers located in that region should watch carefully and give timely warning of their presence so that steps can be taken to prevent their increase.

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INASMUCH as *Anthonomus grandis* Boh. has now thoroughly established itself as a member of the south Texan fauna, collectors of American Coleoptera will naturally be glad to get specimens. We have now in the Department of Agriculture a large series, and will be glad to send specimens to Coleopterists.—L. O. HOWARD, United States Department of Agriculture, Division of Entomology, Washington, D. C.

# Notes and News.

## ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

**To Contributors.**—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Twenty-five "extras" without change in form will be given free when they are wanted, and this should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

WE call the attention of our readers to the journal devoted to wild flowers (see advertising column), botany and the higher branches of general gardening, edited by Prof. Thomas Meehan, the well-known horticulturist and Pennsylvania State Botanist. The publication is beautifully illustrated, and should be in the hands of all lovers of flowers and plants.

PICTURES for the album of the American Entomological Society have been received from Mrs. Annie Trumbull Slosson, W. C. Wood, George A. Ehrmann, J. M. Aldrich, C. S. McKnight, H. C. Fall, G. R. Pilate and Dr. John Hamilton. This is the most interesting collection of the pictures of entomologists in the world, and was started thirty-five years ago. Remember, we wish the pictures of all persons interested in entomology. It is not necessary to have published anything, as we want the pictures of "little bugs" as well as the so-called "big" in bugology.

A VISIT TO CAMBRIDGE.—Some months after the death of Dr. LeConte I considered it a duty to assist in fulfilling his will by suitably preparing his cabinet and transporting it to the Museum at Cambridge. Annually, since, I have made one or two visits for the more accurate study of its types after a thorough study of my own material had been completed. In that collection I find not only the bare facts, for which I seek, but much besides. In the more than thirty years of our association there is not a box which has not been before us the topic of discussion or for consultation. Every one recalls its memories, and even particular specimens recall incidents of interest. To me such a visit is therefore more than the comparison of specimens, it puts me again in touch with a friend.

A visit in December last found the collection in excellent condition, and the careful custodian, Mr. Henshaw, is rapidly arranging the specimens in a neater manner, the types defined, and, in those cases in which types are in other cabinets, specimens have been obtained through our united efforts, so that very few remain unrepresented.

The means for the preservation of the specimens from danger arising

within are as perfect as it is possible to have them, and at the same time hold the specimens accessible for study. All museums are at times liable to have specimens stolen, but it is to be hoped that no one who studies that collection *will* be found so devoid of honor as to rob it.

I regret greatly that many of the traditions of the collection are known only to me. Frequently specimens have something about them indicating their origin and types from Chaudoir, Mannerheim, and others, even including Dejean, may be known thereby. As many of these traditions concern individual specimens it is hardly possible to give any general data. In a collection of the character of that of LeConte it is important that no label attached to a pin, however unimportant it may seem, should be removed.—GEO. H. HORN.

EWLIN, in his book of Travels in Turkey, has recorded a singular tradition of the history of the Flea and its confraternity, as preserved among a sect of Kurds, who dwelt in his time at the foot of Mount Sindshar. "When Noah's Ark," says the legend, "sprung a leak by striking against a rock in the vicinity of Mount Sindshar, and Noah despaired altogether of safety, the serpent promised to help him out of his mishap if he would engage to feed him upon human flesh after the deluge had subsided. Noah pledged himself to do so; and the serpent coiling himself up, drove his body into the fracture and stopped the leak. When the pluvious element was appeased, and all were making their way out of the ark, the serpent insisted upon the fulfillment of the pledge he had received; but Noah, by Gabriel's advice, committed the pledge to the flames, and scattering its ashes in the air, there arose out of them Fleas, Flies, Lice, Bugs, and all such sort of vermim as prey upon human blood, and after this fashion was Noah's pledge redeemed."—*Hist. of Ins.* (Murray, 1838) ii, 312.

## Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2 cent stamp with all insects for return of names. Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

## Entomological Literature.

Under the above head it is intended to note such papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South). Articles irrelevant to American entomology, unless monographs, or containing descriptions of new genera, will not be noted. Contributions to the anatomy of insects, however, whether relating to American or exotic species will be recorded.

1. BULLETIN OF THE ILLINOIS STATE LABORATORY OF NATURAL HISTORY, vol. iv.—On the entomology of the Illinois River and adjacent

waters, C. A. Hart. Description of three new parasitic Hymenoptera from the Illinois River, W. H. Ashmead.

2. OHIO AGRICULTURAL EXPERIMENT STATION, BULLETIN 62.—The grape root worm, *Fidia viticida* Walsh, F. M. Webster.

3. DEUTSCHE ENTOMOLOGISCHE ZEITSCHRIFT HERAUSGEGEBEN VON DER DEUTSCHEN ENTOMOLOGISCHEN GESELLSCHAFT, 1895, Heft 2.—*Pœcilophana* nov. gen., Cetonidæ, erected for *Cetonia ochroplagiata* Heller, G. Kraatz. On termitophilous Cicindelidæ, E. Wasmann. Review of the species of the Coleopterous genus *Magdalis* Germ. known to me, E. Reitter. *Epiphanops* nov. gen., Curculionidæ, E. Reitter. Review of the species of the Coleopterous genus *Strophomorphus* Seidl. known to me, E. Reitter. Review of the species of the Coleopterous genus *Pholicodes* Schönh. known to me, E. Reitter. On some new species of the Melonthid genus *Dicrania* Serv., G. Kraatz. New Chrysomelidæ, with synonymical remarks, J. Weise. New species of Cicindelidæ, W. Horn. On the Carabid genus *Imaibius* Bates, G. Kraatz. New species of exotic Cetonidæ, G. Kraatz. *Argyrophegges* nov. gen., Goliathidæ, G. Kraatz. *Acanthovalgus* nov. gen., Valginidæ, G. Kraatz.

4. THE CANADIAN ENTOMOLOGIST, XXVII, 12.—The plum-twig gall-mite, M. V. Slingerland. Partial preparatory stages of some moths, G. H. French. Curious behavior of *Eudamus pylades* larva, H. H. Lyman. Note on *Aphilanthops*, C. F. Baker. The larvæ of North American sawflies, H. G. Dyar. Two new *Crocotas* found in western Pennsylvania, G. A. Ehrmann. The life-history of *Pamphila manitoba* Scudder, F. W. Fyles. Note on the setæ of the larvæ of Thyatiridæ and a correction, H. G. Dyar. A new genus and species in the Aphelininæ, L. O. Howard.

5. ANATOMISCHER ANZEIGER, xi, No. 11.—The tracheal end-ramifications in the spinning glands of Lepidopterous larvæ, E. Holmgren.

6. ANNALES AND MAGAZINE OF NATURAL HISTORY, No. 96.—New genera and species of Phyralidæ, Thyrididæ and Epiplemidæ, W. Warren. Australian entomophytes, or entomogenous fungi, and some account of their insect hosts, A. S. Olliff.

7. SITZUNGSBERICHTE DER NATURFORSCHENDEN GESELLSCHAFT ZU LEIPZIG, 1892–1894.—New exotic Hymenoptera of the family Ichneumonidæ, Kriechbaumer.

8. ARCHIV FUR NATURGESCHICHTE, Berlin, 61 Jahrgang, 1 Band, 2 Heft.—The male sexual organ of *Vespa germanica*, H. E. Kluge. Comparative morphological researches on the abdomen of the Endomychidæ, Erotylidæ and Languriidæ (in the old sense), and on the muscling [Muskulatur] of the sexual apparatus of *Triplax*, C. Verhoeff.

9. BULLETIN OF THE CORNELL UNIVERSITY AGRICULTURAL EXPERIMENT STATION, No. 104.—Climbing cutworms in western New York, M. V. Slingerland.

10. PROCEEDINGS OF THE CALIFORNIA ACADEMY OF SCIENCES (2), vol. v, pt. 1.—On the power of adaptation in insects, H. H. Behr. Some Mexican Neuroptera, N. Banks. Some parasitic Hymenoptera from Baja California and Tepic, Mexico, W. H. Ashmead. The California Phryganidian (*Phryganidia californica* Pack.), V. L. Kellogg and F. J. Jack. Explorations in the Cape Region of Baja California in 1894 . . . , G. Eisen. [Other entomological articles contained in this volume were noted previously].

11. TRANSACTIONS OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1895, part 4.—On a probable explanation of an unverified observation relative to the family Fulgoridæ, W. L. Distant. Contribution towards the history of a new form of larvæ of Psychodidæ (Diptera), from Brazil, F. Müller. Remarks on the homologies and differences between the first stages of *Pericoma* Hal., and those of the new Brazilian species, C. R. Osten Sacken. Supplementary notes on Dr. Fritz Müller's paper on a new form of larvæ of Psychodidæ (Diptera) from Brazil, A. E. Eaton. New species of North American Tortricidæ, Lord Walsingham.

12. MISSISSIPPI AGRICULTURAL AND MECHANICAL COLLEGE EXPERIMENT STATION, BULLETIN, No. 36.—Insects injurious to corn, H. E. Weed.

13. THE ENTOMOLOGISTS' RECORD AND JOURNAL OF VARIATION, London, vii, 6.—The "Basket Caterpillar" and "Bagworm," J. W. Tutt.

14. TRANSACTIONS OF THE AMERICAN ENTOMOLOGICAL SOCIETY, xxii, pt. 4.—Catalogue of the Coleoptera of southwestern Pennsylvania, with notes and descriptions, J. Hamilton.

15. THE AMERICAN NATURALIST, January, 1896.—On the girdling of elm-twigs by the larvæ of *Orgyia leucostigma*, and its results, J. A. Lintner.

16. Notes from the Leyden Museum, xvii, Nos. 1–3.—On a new species of the family Cicindelidæ from Argentina, W. Horn. Description of two new Brenthidæ, A. Senna. New digger-wasps in the collection of the Leyden Museum, A. Handlirsch.

17. BIOLOGIA CENTRALI-AMERICANA, Zoology, pt. 125.—Coleoptera, vol. iii, pt. 1, pp. 377–400, pl. 17, G. C. Champion. Coleoptera, vol. vii, pp. 209–216, H. S. Gorham. Hymenoptera, vol. ii, pp. 369–376, P. Cameron. Lepidoptera-Rhopalocera, vol. ii, pp. 401–416, pl. 87, F. D. Godman and O. Salvin. Lepidoptera-Heterocera, vol. ii, pp. 249–272, pl. 63, H. Druce. Rhyncota-Homoptera, vol. ii, pp. 113–120, W. W. Fowler.

18. PSYCHE, a journal of Entomolgoy, January, 1896.—Notes on the Acrididæ of New England,—ii, Tryaxilinæ i, A. P. Morse. The Arctic Lymantriid larva from Mt. Washington, N. H., *Dasychira rossii* Curt., H. G. Dyar. Notes on the species of *Exorista* of Temperate North

America, C. H. T. Townsend. Note on *Smerinthus cerysii* Kirby, F. L. Harvey.

19. PROCEEDINGS OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, 1895, pt. 3 [Extract].—Synopsis of the North American species of *Gorytes* Latr., W. J. Fox.

20. UNIVERSITY OF TENNESSEE AGRICULTURAL EXPERIMENT STATION, BULLETIN viii, 4.—The Chinch Bug, C. E. Chamblis.

21. DEUTSCHE ENTOMOLOGISCHE ZEITSCHRIFT HERAUSGEGEBEN VON DER GESELLSCHAFT IRIS ZU DRESDEN, Jhg., 1895, 2es lepidopterologisches Heft (Iris, Dresden, Bd. viii, H. 2).—Descriptions of new Lepidoptera from Tibet, O. Staudinger. On Lepidoptera from Uliassutai, ibid. New exotic butterflies, ibid.

22. ENTOMOLOGISCHE NACHRICHTEN, xxi, Heft 23 and 24.—Ethiopian Heterocera, ii, F. Karsch. Corrections on species of *Agrias*, O. Staudinger.

23. Report of the Secretary of Agriculture, 1895.—The Mexican cotton boll weevil. The San José scale. Appearance of insect pests.

24. ZOOLOGISCHE JAHRBUCHER. ABTHEILUNG F. SYSTEMATIK, GEOGRAPHIE UND BIOLOGIE DER THIERE, ix, 1.—On the morphology and physiology of the ovaries of the worker-ants, E. E. Bickford.

25. ZEITSCHRIFT FUR WISSENSCHAFTLICHE ZOOLOGIE, 60 Bd., 3 H.—The double-spermatozoa of the Dytiscidæ, E. Ballowitz.

26. LE NATURALISTE CANADIEN, xxii, 12.—The last descriptions of l'Abbe Provancher (cont.), Hymenoptera.

27. ANNALES OF THE NEW YORK ACADEMY OF SCIENCES, viii, 6–12.—The Arachnida of Colorado, N. Banks. Coleopterological Notices, vi, T. L. Casey.

28. JOURNAL OF THE NEW YORK ENTOMOLOGICAL SOCIETY, December, 1895.—The life-histories of the New York slug caterpillars, H. G. Dyar. On the probable origin, development and diffusion of North American species of the genus *Diabrotica*, F. M. Webster. Final note on the Platypterygidæ, A. R. Grote. A new *Datana*, H. G. Dyar. Schrank's genera, A. R. Grote. Early stages of some Bombycine caterpillars, A. S. Packard. Preliminary Handbook of the Coleoptera of Northeastern America (cont.), H. F. Wickham. Correction of a misidentification—*Attacus splendidus*, H. G. Dyar. Egg-capsules of *Chrysochus auratus* (Fab.), J. L. Zabriskie.

29. REVIEW. There has recently appeared from the press of MacMillan & Co. (London and New York) Volume V of the Cambridge Natural History series with the modest title of "Peripatus, etc." which certainly deserves the careful perusal of all students of the articulata.

The book begins with a scheme of classification (to be continued in a

succeeding volume) giving the most recent results of taxonomic study, extremely useful to those whose restricted special studies make it difficult to keep in touch with all that is being done on lines unrelated to their own work.

Peripatus, which serves as a title for the volume, occupies but twenty-six pages, is well-nigh exhaustively treated. The discussion of its Arthropod affinities seems conclusive, and the anatomical details, embryology, habits and the complete bibliography leave very little to be desired.

Chapter ii, treating of the Myriapoda, will be read with greater interest by our students from the fact that we have them abundantly about us.

Beginning with chapter iii, Dr. David Sharp enters on a discussion of the Insecta.

In the treatment of the details of the Insecta many widely scattered facts are brought together and discussed. Fortunately, prolixity has been avoided, a difficult point to attain with such an extensive knowledge of detail and the tendency to seek reasons for, or causes of, modification which Dr. Sharp has so often shown.

The Aptera are briefly treated in chapter viii, of great interest in many ways, but difficult of study from the fragility of many of the species.

The Orthoptera occupy chapters viii to xiv, and the Neuroptera xv to xxi, and give, in a summary manner, the accepted arrangements of the families composing those two orders.

The next two chapters treat of the Hymenoptera.

The volume concludes with an abundant index, without which a book of this character suffers greatly.

To the naturalist, whether teacher or student, the entire series of which this volume forms a part, has great value, and the general reader will find an abundance of interesting and easily assimilable information.—G. H. H.

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## INDEX TO THE PRECEDING LITERATURE.

The number after each author's name in this index refers to the journal, as numbered in the preceding literature, in which that author's paper is published; * denotes that the paper in question contains descriptions of new North American forms.

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# Doings of Societies.

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PHILADELPHIA, Jan. 14, 1896

A stated meeting of the Feldman Collecting Social was held at the residence of Mr. H. W. Wenzel, 1509 S. 13th St. Members present: Messrs. Bland, H. W. Wenzel, Boerner, Fox, Castle, Laurent, Trescher, E. Wenzel, Johnson and Schmitz. Honorary member: Dr. Henry Skinner. Meeting called to order at 9 P. M., President Bland presiding. The Secretary and Treasurer read their annual reports, which were, upon motion, accepted as read. The President then made his annual address, reviewing the history of the Social, and it was moved that the same be incorporated in the minutes:

"To-night being the anniversary meeting of the 'Feldman Collecting Social,' another year has been added to its life and history; it has been one in which the members have worked with zeal and determination; looking forward to our monthly meetings with pleasure, vieing with each other in exhibiting their trophies and imparting the knowledge gained in the fields, woods and mountains, in pursuits of their favorite study and pastime.

"The display of specimens has been creditable, showing species captured within a short distance of our city that in former years were obtained for our cabinets from remote sections of the country. I have noticed that species frequently taken in this locality in former years were not among the exhibits made; many that were desirable for cabinet exchanges seem lost to us. I refer to favorites in Coleoptera, such as *Myas coricinus*, *Cychrus*, two species; *Calasoma*, one; *Platynus*, two or three; Elateridæ, two; Lucanidæ, two; most all of the large species in Cerambycidæ are seldom taken; are they becoming extinct? or has the breaking up of their haunts by the tide of improvement in extending the city driven them to sections we have not yet been able to locate; perhaps the collectors in other orders have met with the same results. My own experience in collecting has given me the knowledge that many species which may be widely distributed and are outlined in a geographical fauna and habitat of great extent are very local in a State or even county within that area. In our immediate district the woods are being cut down, as a sequence, the timber feeders are destroyed or driven to new fields; with them we lose their natural destroyers; where have they gone?

"To solve these mysteries I believe is part of the work of the collector; also to know the fauna of his district, making a note of any loss or addition, recording it where it can be used for reference. We do not pretend our Social to be a scientific body, but I do claim it is an auxiliary one to science, obtaining information that is brought forth by field work.

"It has been a great source of pleasure and information to us in having our honorary members meet with us; each is well known to the devotees of Entomology throughout the country, being eminent in their special studies; they have made our meetings attractive; they have joined freely in the conversational part of our meetings in the way of verbal communications, questioning the collector and bringing forth facts which otherwise would not be recorded. They have increased to a great extent the interest in our work by their impromptu remarks on the anatomical differences of genera and species, illustrating them by drawings on the black-board. Seeing we are thus encouraged I feel that the members appreciate the advantage of our Social and will continue individually their efforts to make our meetings pleasant and

profitable to each other. I know much has been done; ours appears to be an inexhaustible study, as we advance a fresh mine opens with an enchanting charm to seek further to satisfy the desire for new material and knowledge. In view of the fact that our records are being published by one of the prominent entomological monthlies of the world, we should maintain a high standard of work. That our Social endeavors to hold the favorable position which it now occupies is the desire of your presiding officer."

Dr. Skinner, in reply, complimented the President on his address, stating that on behalf of the honorary members he desired to express their appreciation of the hospitality of the Social, and that they had undoubtedly been benefitted by the transactions at its meetings.

Mr. Laurent stated that he had received a letter from Dr. Rodrigues Ottolengui, inviting the members to attend his first annual sale of insects, which takes place in New York City on January 25th. Mr. Laurent exhibited two specimens of Lepidoptera, *Acronycta afflicta*, from Jamesburg, N. J., and *Hadena burgessi* from Arlington Beach, N. J., which were identified for him by Prof. Smith, and which he states were not before recorded from the State of New Jersey.

Mr. Fox exhibited two nests of *Polistes annularis* collected by Mr. C. W. Johnson at Denison, Texas. The nests were unusually large, one measuring 11 x 6 inches, being larger by far than any nest of the species of the genus *Polistes* heretofore seen by the speaker.

Dr. Skinner spoke of the importance of arranging males on the left hand side and females on the right in the columns in the drawer of the cabinet. Too little attention is paid to the necessity of having females where antigeny or secondary sexual difference is not marked, or does not exist. Females, as a rule, are much harder to get than males, and there is no special effort made to get them where the sexes are alike in markings. If specimens are arranged in the cabinet as above advocated the absence of females will be at once noticed. There is great necessity for having both sexes in many interesting entomological studies, and the speaker hopes the above-mentioned method will be used more generally.

The following officers were elected to serve another year:

*President*, JAMES H. B. BLAND.
*Vice-President*, Dr. DAVID M. CASTLE.
*Treasurer*, H. W. WENZEL.
*Secretary*, THEO. H. SCHMITZ.

Dr. Skinner extended an invitation to the members, inviting them to hold the next meeting at his residence; so ordered, the secretary being instructed to notify the members previously of the place of meeting. No further business being presented the meeting adjourned to the annex.

THEO. H. SCHMITZ, *Secretary*.

Errata.—In the December minutes the name *C. charis* should be *C. choris*.

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# The Entomological Section

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

PROCEEDINGS OF MEETINGS.

NOV. 21, 1895.

A regular stated meeting of the Entomological Section of the Academy of Natural Sciences was held in the Hall, S. W. cor. Nineteenth and Race Streets, this evening, Dr. Geo. H. Horn, director, presiding. Members present: Seiss, Fox, Skinner, Ridings, Liebeck. Associates: Reinick, Gerhard, Castle. Mr. C. Few Seiss stated that he had been experimenting with a captive specimen of *Prionidus cristatus* Linn. in relation to its killing other insects. A red legged grasshopper (*M. femur-rubrum*) struggled violently when first seized, but almost instantly after the beak of the *Prionidus* was inserted its struggles ceased, and in thirty seconds the grasshopper, to all outward appearances, was dead. In the case of a yellow-bear caterpillar, two inches in length, all evidence of life and motion disappeared in thirty-five seconds after seizure by the *Prionidus*.

A business meeting was held December 9th, and the following gentlemen were elected to serve as officers for the ensuing year:

*Director*, G. H. HORN, M.D.
*Vice-Director*, C. S. WELLES.
*Treasurer*, E. T. CRESSON.
*Conservator*, HENRY SKINNER, M.D.
*Secretary*, W. J. FOX.
*Recorder*, HENRY SKINNER, M.D.
*Publication Committee*, C. W. JOHNSON, J. H. RIDINGS.

Dr. HENRY SKINNER, *Recorder.*

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The following papers were read and accepted by the Committee for publication in ENTOMOLOGICAL NEWS:

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## NOTES ON OXYBELUS, WITH DESCRIPTIONS OF NEW SPECIES.—I.

By CARL F. BAKER, Fort Collins, Col.

All of the species mentioned below belong to that section of the genus having the squama terminating in a strong curved point. The spine is entire in all but the last one, and in all except this is either gradually narrowed to tip or with the sides nearly parallel. These species all have the pleura in front of middle coxa distinctly crested, as in many species of *Crabro*. All have black or piceous mandibles. I have followed Mr. Robertson's method of describing quite closely in order that the descriptions given may be readily and rapidly compared with those in the "Synopsis of N. A. Oxybelus."

*Oxybelus cornutus* Rob.—Occurs at Fort Collins, throughout August on *Solidago*. Mr. Robertson mentions a male with the mesonotum rufous in front. I have a female which also shows the same peculiarity. The females measure about 10 mm. in length.

**Oxybelus rejectus** n. sp. ♂.—Head and thorax densely coarsely punctured. Ocelli as in *cornutus*. Tubercle on vertex behind ocelli entirely wanting. Prothorax, scutellum and postscutellum, carinate; squama arising from posterior lateral edges of postscutellum, produced into long incurved points; spine long, narrow, sides nearly parallel, tip obtusely rounded. Metathorax reticulate above; median area triangular, open

above, transverse striæ within, below passing into a long median carina; lateral faces striato-punctate, the striæ transverse. Abdomen long triangular, rather strongly constricted between the segments, coarsely punctate, with four pairs of lateral spines; last segment trapezoidal, evenly emarginate at tip. Color black; flagellum dark rufous; silvery pubescence thin on face, sparse on thorax and abdomen. Tegulæ rufous; tubercles, squamæ, widely separated spots on sides of abdominal segments 1-4, and two faint discal spots on segment 5, lemon-yellow. Legs black, small spots at tips of fore and middle femora beneath, and a line on outside of all tibiæ, lemon-yellow; tarsi rufous towards tips. Wings hyaline, nervures quite dark. Length 7 mm.

Fort Collins, August. This species is nearest *cornutus*, with which I at first placed it as a well-marked variety. It, however, shows specific differences as above described.

**Oxybelus striatus** n. sp. ♂.—Thorax coarsely punctured, on mesothorax more coarsely. Occiput up to back of posterior ocelli coarsely transversely striato-punctate. Face very finely sparsely punctured. Ocelli nearly normal, but showing a tendency towards the position in *cornutus*. Vertex behind posterior ocelli with a distinct median tubercle. Prothorax carinate, sharp angled at the sides. Mesonotum, scutellum and postscutellum, carinate. Posterior margins of mesonotum and scutellum coarsely rugose; squamæ arising from lateral edges of postscutellum, rather suddenly narrowed to a point, which is strongly bent inward. Spine long, narrow, slightly larger towards the tip. Metanotum above reticulated; median area large, triangular, nearly smooth within, tip approximating apex of metanotum and passing into a very short median carina; lateral faces finely transversely striato-punctate. Abdomen broad oval, slightly constricted between the segments, punctures of medium size, rather sparse, especially on discs; with three pairs of lateral spines. Last two segments very coarsely punctured, the last nearly rectangular, gently emarginate at tip. Color black; pubescence of face brownish in certain lights, on rest of body silvery; flagellum deep chocolate. Tubercles, spot on tegulæ, squamæ, tip of spine, and narrow fasciæ on abdominal segments 1-5 (slightly interrupted on 1-4), whitish. Posterior margins of abdominal segments silvery. Legs black; fore tibiæ and all tarsi rufous, stripes on outside of all tibiæ white. Wings hyaline, nervures rufous. Length 6.5 mm.

Fort Collins, August. This species is near *subcornutus* Ckll. Among other differences, however, the scutellum is strongly carinate, and the squamæ are confined to the sides of the postscutellum.

**Oxybelus punctatus** n. sp. ♂.—Closely related to *striatus*, but differing as follows: Mesothorax closely punctured. Extreme vertex coarsely punctured. Occiput more strongly punctured, the striæ not nearly so

distinct; postscutellum rugose, not carinate; squamæ more flaring, points not so strongly incurved; spine tapering very gradually to tip. Abdomen more closely and coarsely punctured.

Fort Collins, August. This species, in color and form, is almost the exact counterpart of *striatus*. But with the material at hand it is impossible to unite them.

*Oxybelus 4-notatus* Say.—I have a large series of this variable species from Michigan and Colorado. It is common at Fort Collins in August, on *Solidago*. The variety *montanus* Rob. occurs with the typical form.

*Oxybelus subulatus* Rob.—Specimens collected in Michigan (Agric. College, 6-29-88, on flowers of *Spiræa sorbifolia*) do not differ from the common Colorado form (Fort Collins, August, on *Solidago*). I have one female resembling the variety from Colorado described by Mr. Robertson. This specimen has, however, all of the abdominal bands interrupted, and two yellow spots on the scutellum.

**Oxybelus acutus** n. sp. ♀.—Head and thorax densely coarsely punctured. Prothorax indistinctly carinate, punctured, rounded at the sides. Mesonotum in front, scutellum and postscutellum carinate; squamæ nearly joining behind, points short not strongly curved; spine very short, but little exceeding the tips of the squamæ, base broad, rapidly narrowing to an acute tip. Metanotum above with polygonal reticulations; median area subtriangular, sides rounded, partly closed above, rugose within, passing below into a short carina; lateral faces coarsely rugoso-punctate. Abdomen ovate, coarsely punctate, strongly constricted between the segments, last segment triangular, very coarsely punctured. Color black; pubescence silvery, except on last two abdominal segments; flagellum deep chocolate. Tubercles, tegulæ, squamæ, two oval spots on segment 1, two transverse spots on segment 2, and narrow continuous bands on segments 3–5, yellowish white; hind margins of abdominal segments 2–5 silvery. Legs black; anterior tibiæ rufous, middle and posterior piceous, all tibiæ with whitish stripes outwardly; tarsi rufous towards tips. Wings hyaline, slightly smoky on distal margins, nervures rufous. Length 6.5 mm.

Foot-hills west of Fort Collins, 6–30–95. This species is nearest *subulatus*. It differs from all known North American species in the extraordinary form of the spine. It may also be separated from *subulatus* by other characters as above described.

**Oxybelus cockerellii** n. sp. ♂.—Vertex and thorax coarsely, rather closely punctured. Face finely and more sparsely punctured. Occiput transversely striato-punctate, but not strongly so. Vertex with a median tubercle. Prothorax carinate, rather sharp angled at the sides. Mesonotum in front, scutellum and postscutellum, strongly carinate; squamæ

arising from basal sides of postscutellum, the rather short points not strongly curved; spine of medium length, narrow at the base, strongly broadened to a thin emarginate tip. Metathorax above with fine oblique carinæ, reticulate at immediate base of spine; median space short and broad, triangular, open above, smooth within, passing below into a long carina: lateral faces finely sparsely punctate, with few indications of striæ. Abdomen ovate, rather finely closely punctate, not strongly constricted between the segments, last two segments very coarsely punctured, the last rectangular and truncate at tip; with three pairs of distinct lateral spines. Color black; pubescence silvery, thick on face, sparse on rest of body, that on face brown in certain lights; flagellum rufous beneath at tips. Tubercles, tegulæ, squamæ, tip of spine and transverse spots on sides of abdominal segments 1–5 (all narrow and widely separated), whitish. Legs black; fore tibiæ and tarsi rufous, all tibiæ with a whitish stripe outwardly; middle and hind tarsi with first joint whitish at base, last joint rufous. Wings hyaline, nervures dark brown. Length 5–7 mm.

Fort Collins in August, on *Solidago*. This species belongs to a group of this section of the genus, which contains but one other species, *cressonii*. It is separated from that species, most noticeably, by the strong scutellar carina, closely punctured abdomen, color of antennæ and mandibles, and larger size. I have dedicated this species to Prof. Cockerell, in recognition of his successful labors in American Hymenopterology.

## A NEW PARASITE.

By H. Anderson Lafler.

During the past season I have studied, somewhat, our commonest "digger wasp" here (De Witt, Neb.) identified as *Bembex nubilipennis*. This species digs burrows about 18 inches in length in the dry, compact earth of roadways, paths and bare places in suitable localities, which they provide with flies upon which the egg is laid.

A seemingly new fact in regard to this species or any of the genus *Bembicum*, is that this species is parasitized by a *Tachina*. Of a large number of burrows which were dug into, all were found to contain in the cavities in which was the larva of the wasp, the larvæ of a *Tachina*. There were from four to twelve in each cavity. They were feeding on the provisions made by the wasp for her own larva. In one instance no larva of the wasp or empty pupa case was found, but the cavity contained

eight of the Dipterous larvæ and an abundant supply of food. Pupæ were also found in same place as the larvæ.

Specimens of full grown larvæ which were secured were placed in earth, pupated and gave out the imago in eighteen days between August 18th and September 5th. Of another lot secured on September 5th only one has emerged to date. A specimen was submitted to Prof. S. W. Williston, who was unable to determine the species, it being "in all probability yet undescribed." It belongs to the genus *Prosphorysa*.

No flies resembling these at all were noticed about the holes or wasps, and I do not know how the flies gained access to the larval cavities, as in almost every instance the mouth of the burrow is carefully covered with earth by the wasp both when leaving the hole or remaining in for some time. In the latter case the dirt is pushed up from below, the angle of descent being small, so that the earth does not run down into the hole. The statement that no parasites are known that feed upon provision of flies in the nests of any of the species of the genus *Bembecinus* is upon the authority of Prof. L. O. Howard.

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## DESCRIPTION OF A NEW SPECIES OF IDOLOTHRIPS.

By THEO. PERGANDE, Washington, D. C.

**Idolothrips coniferarum** n. sp.—Length 3.6–4.8 mm. General color black and polished; the head and legs with a faintly bluish, and the prothorax with a slight purplish reflection. Eyes dark brown; ocelli colorless. Antennæ black, with the basal two-thirds of the third, basal half of the fourth and base of the fifth and sixth joints yellow; anterior tibiæ, especially in the male, frequently yellowish brown; tarsi dark brown to black; sutures of the abdomen, if extended, dark red. Wings clear and colorless, the veins and a short streak at base of costa of front wings brownish or blackish; fringes dark brownish. Head about three times as long as broad, cylindrical, its sides parallel; conical in front of eyes and fringed along each side with sparsely set, short and stiff hairs; eyes oval and slightly projecting; antennæ slender and somewhat longer than the head; third joint longest, the fourth slightly shorter, the following joints gradually diminishing in length; joints 3 to 5 clavate, the last three fusiform; all are furnished with a few very slender hairs around the apex, the hairs becoming somewhat more numerous on the last three joints. Prothorax conical, anteriorly as broad as the head, arcuate and broadest posteriorly and with a prominent lateral angle beyond the insertion of the legs, each of which bears a rather long and stiff hair or bristle, while the

posterior margin is provided each with two or three short and stiff hairs; meso-metathorax quadrangular, longer than broad, slightly broadest and arcuate anteriorly, and with a prominent lateral angle each side. Abdomen much elongated and longer than the rest of the body, broadest in front, tapering gradually towards the end, the tube or last segment cylindrical and about as long as the posterior tibiæ and tarsi combined; each joint of the abdomen is furnished each side near its posterior margin, with apparently three slender and radiating, pale brownish hairs, which gradually grow longer and more bristle-like towards the end of the body, while the apex of the tube is surrounded by six long and radiating bristles alternating with short and reflexed hairs. Legs rather long and stout, with the anterior femora, especially those of the male, much inflated towards the base; tarsi of the female simple, while the anterior pair of the male bear a large and stout, acute tooth at inner side of base; all legs are sparsely furnished with short and stiff hairs. Wings narrow, of equal width throughout, rounded at the apex, gently and uniformly curved and reaching nearly to the tube; veins of both pairs scarcely one-fourth the length of the wing; surface of the head transversely striated, the thorax finely granulated; prothorax with a shallow, impressed, median line and a shallow, more or less elongated fovea or puncture each side of it anteriorly.

Described from numerous specimens. Found in the vicinity of Washington, D. C., during the Spring and early Fall on green and dry branches, and during late Fall and Winter under the loose bark of *Pinus inops*, *Juniperus virginiana* and *Abies* sp.

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## OBITUARY.

WILLIAM HENRY TUGWELL died on Sept. 20, 1895, at Lewisham Road, near London, England, aged 64 years. He was interested in Lepidoptera.

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ENTOMOLOGICAL NEWS for January, 1896, was mailed December 31, 1895.